

**WHAT IS CLAIMED IS:**

1. A method for allocating a resource in a digital network, the method comprising  
using a network planning tool prior to a time of operation of the digital network to define a recommended change in use of the resource;  
determining when a resource is needed at the time of operation of the digital network; and  
allocating the resource at the time of operation of the digital network according to the definition of the recommended change in use of the resource.
2. The method of claim 1, wherein the change in use includes a recommended route.
3. The method of claim 2, wherein a plurality of recommended routes is defined.
4. The method of claim 3, further comprising  
defining a priority order of the plurality of recommended routes; and  
allocating the plurality of recommended routes at least in part according to the priority order.
5. The method of claim 1, wherein the resource includes a service instance having one or more of the following: source node, destination node, service type, service granularity, maximum delay, protection type.
6. The method of claim 1, wherein the resource includes routing information.

7. The method of claim 6, wherein the routing information includes equipment needs.

8. The method of claim 7, wherein the routing information indicates whether a route uses a switching matrix.

9. The method of claim 1, further comprising sending the definition of a recommended resource to a network management system.

10. The method of claim 1, further comprising sending the definition of a recommended resource to an Element Management System.

11. The method of claim 1, further comprising sending the definition of a recommended resource to a Craft Terminal.

12. The method of claim 1, further comprising sending the definition of a recommended resource to a control plane.

13. The method of claim 1, wherein the resource includes a description of a characteristic of an optical network.

14. The method of claim 1, further comprising receiving information generated at a time of deployment of the digital network;  
and  
using the received information to modify the definition of a recommended resource.

15. The method of claim 1, further comprising  
receiving information generated at a time of operation of the digital network;  
and  
using the received information to modify the definition of a recommended  
resource.

16. A method for creating a list of recommended routes to be used by a  
network control system at a time of operation of a digital network, the method  
comprising

generating a list of recommended routes at a time prior to network operation,  
based on predicted network topology;

associating a service instance with a recommended route including one or more  
of the following: source node, destination node, service type, service granularity  
maximum delay, protection type, special equipment needs; and

sending the list of recommended routes to a processor that is in communication  
with a network for use during operation of the network to select a routing of information  
based on the list of recommended routes.

17. The method of claim 16, further comprising  
ordering the list so that a priority of use of the recommended routes is indicated  
by the ordering.

18. The method of claim 16, further comprising  
receiving information obtained at a time of deployment of the digital network;  
modifying the list in response to the received information; and  
sending the modified list to the processor.

19. The method of claim 16, further comprising  
receiving information obtained at a time of operation of the digital network;  
modifying the list in response to the received information; and  
sending the modified list to the processor.

20. A method for allocating a new routing for information in a digital network at a time of operation of the digital network, the method comprising  
receiving a list of recommended routes, wherein the list of recommended routes includes information obtained at a planning stage of the digital network;  
using the list of recommended routes to allocate a new route for information transfer in the digital network at a time of operation of the digital network.

21. An apparatus for allocating a resource in a digital network, the apparatus comprising  
a processor;  
a machine-readable medium including instructions executable by the processor comprising  
one or more instructions for using a network planning tool prior to a time of operation of the digital network to define a recommended change in use of the resource;  
one or more instructions for determining when a resource is needed at the time of operation of the digital network; and  
one or more instructions for allocating the resource at the time of operation of the digital network according to the definition of the recommended change in use of the resource.

22. A machine-readable medium including instructions executable by the processor comprising  
one or more instructions for using a network planning tool prior to a time of operation of the digital network to define a recommended change in use of the resource;  
one or more instructions for determining when a resource is needed at the time of operation of the digital network; and  
one or more instructions for allocating the resource at the time of operation of the digital network according to the definition of the recommended change in use of the resource.

23. A computer data signal embodied in a carrier wave comprising  
a list of recommended routes created at a planning stage of a digital network, to  
be used by a network control system at a time of operation of the digital network.

24. An apparatus for allocating a resource in a digital network, the apparatus  
comprising  
means for using a network planning tool prior to a time of operation of the  
digital network to define a recommended change in use of the resource;  
means for determining when a resource is needed at the time of operation of the  
digital network; and  
means for allocating the resource at the time of operation of the digital network  
according to the definition of the recommended change in use of the resource.

25. The apparatus of claim 24, wherein the change in use includes a  
recommended route.

26. The apparatus of claim 25, wherein a plurality of recommended routes is  
defined.

27. The apparatus of claim 26, further comprising  
means for defining a priority order of the plurality of recommended routes; and  
means for allocating the plurality of recommended routes at least in part  
according to the priority order.